

App'l No. 09/652,511
Reply to Office action of 09/28/04

REMARKS/ARGUMENTS

The applicant acknowledges with thanks the Office Action mailed September 28, 2004 from the Examiner. This Amendment and Response to Office Action is responsive to this Office Action. Accordingly, the applicant has added new claims to more particularly point out and claim the invention.

The specification was modified in response to objections by the Examiner. Specifically, on page 7, line 10, "host processor 10" was changed to "host processor 4" and on page 8, line 8, "shared bus 70" was changed to "shared bus 60."

I. Rejection of claims 1-26

Claims 1-8, 10-17 and 19-25 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,976,732 to Mazzola et al. (hereinafter Mazzola). Claims 9, 18 and 26 were rejected under 35 U.S.C. § 103(a) as being obvious based on Mazzola in view of applicant admitted prior art (AAPA). Claims 1-26 have been cancelled, claims 27-44 have been added. For reasons that will now be set forth, claims 27-44 are patentable over Mazzola, alone or in combination with AAPA.

New independent claim 27 recites a system for providing priority based access to a shared resource, comprising a central arbiter coupled to the shared resource, the central arbiter having a first input and a second input, a first device coupled to the first input of the central arbiter, a second device, and a priority based arbiter coupled between the second device and the second input of the central arbiter. The priority based arbiter receives a signal from the first device indicative of the priority status of the first device. The priority based arbiter is responsive to the signal from the first device to generate a modified request signal responsive to a signal from the second device that is sent to the second input of the central arbiter after a delay of a predetermined amount of time. The predetermined amount of time is based on the signal received from the first device indicative of the priority status of the first device.

New independent claim 34 recites a system for providing priority based access to a shared resource comprising a first device, a second device, means for alternatively granting access to the shared resource between the first device and the second device when both devices request access to the shared resource, and means for delaying the request for access from the

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second device coupled between the second device and the means for alternatively granting access. The means for delaying the request for access from the second device is responsive to a signal from the first device indicative of a priority status of the first device to delay the request from the second device a predetermined amount of time based on the signal indicative of the priority status of the first device.

New independent claim 40 is for a method for selectively granting access to a shared resource between a first device and a second device, comprising receiving a signal from the first device requesting access to the shared resource, the signal from the first device having an associated priority level; and delaying a signal from the second device requesting access to the shared resource a predetermined amount of time based on the associated priority level of the first device.

Mazzola teaches a 2-level mechanism for handling bus requests and bus grants. At the lower level, ports send their requests to a local bus arbiter, which in turn sends a request to the upper level arbiter. The central arbiter polls the card slots using a circular queue (a round robin scheme). The round robin scheme can be extended so that the central arbiter may grant a number of high priority requests before granting lower priority requests (e.g., 4 high priority requests for every low priority request).

Although the present invention, like Mazzola, recites a central arbitrator, the present invention further includes a second arbitrator (i.e., the priority based arbitrator of claim 37, or the means for delay of claim 34) that delays a request signal from the second device from reaching the central arbitrator (i.e., the delaying a signal from the second device of claim 40) for a predetermined time based on a signal from the first device indicative of a priority, wherein the first device is coupled to the central arbiter. Thus, where the central arbitrator in Mazzola receives both signals and performs the prioritizing, by contrast the present invention delays (prevents) for a predetermined period of time the second signal from reaching the central arbiter, therefore the central arbiter performs no prioritizing while the second signal is delayed because it is receiving just the one access request signal from the first device. The amount of delay is controlled by the priority signal sent by the first device that is connected to the central arbiter, whereas in Mazzola, any delay at the lower level would be from two devices contending for the same lower level (local) arbiter. Thus Mazzola, either when considered alone or in combination with the AAPA does not teach, suggest or show, the present invention as now claimed.

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II. Conclusion

For the reasons set forth above, the claims of the present invention are patentable over the cited prior art. If there are any fees necessitated by the foregoing communication, please charge such fees to our Deposit Account No. 50-0902, referencing our Docket No. 72255/02656

Respectfully submitted,

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